

EXPERT OPINION

On:

Measurement of Money Damages

In:

Andrew Alexander, et al.

v.

Pelicia E. Hall, et al.

United States District Court
Northern District of Mississippi
Greenville Division
Civil Action No.: 4:20-cv-00021-DMB-JMV

Submitted on:
August 24, 2023

Expert Report of:
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Curriculum Vitae
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Expert Opinion of Jonathan S. Shefftz

Measurement of Money Damages

August 24, 2023

1. Summary of Opinion

I have been asked by counsel for Plaintiffs in this matter to provide an expert opinion regarding the measurement of money damages suffered by Plaintiffs. According to the Fifth Amended Complaint, filed March 16, 2021:

[...] Plaintiffs are currently being confined in conditions which pose serious and imminent dangers to their safety and well-being.

My opinions are as follows:

- For inmate-specific injuries – or even death – that can reasonably be expected to result in pecuniary damages via the inability to gain employment upon release, the money damages can be calculated accurately on an individual basis based on only four Plaintiff-specific attributes, i.e., gender, death versus injury, date of birth, and anticipated release date.
- For non-pecuniary damages that have been suffered by all inmates in comparable conditions, although the economic concepts of Willingness to Pay (“WTP”) and Willingness to Accept (“WTA”) could in theory estimate the money damages on a class basis, in reality no such reliable WTP and WTA analysis can be performed for the conditions alleged by Plaintiffs in this matter.
- Awards by U.S. courts can be extrapolated to Plaintiffs as a class in the amount of approximately \$35.3 million.

- Awards by the European Court of Human Rights can be extrapolated to Plaintiffs as a class in the amount of approximately \$26.4 million.

Note that I am not opining on any legal issues of liability. Instead I am opining solely on the measurement of money damages suffered by Plaintiffs. I may revise my calculations at some future time to reflect additional documentation, encompass additional details, and/or reconsider already received information.

2. Basis for Opinion: Professional Expertise and Materials Considered

My opinion is based broadly on my expertise in economic and financial analysis. I hold both undergraduate and graduate degrees with a focus on economics in various contexts. I have been an economics consultant to both private- and public-sector clients since 1992, first employed by Industrial Economics, Incorporated (a consulting firm based in Cambridge, Massachusetts) and then since the spring of 2006 as an independent consultant (d/b/a JShefftz Consulting) in coordination with my family's move to Western Massachusetts. (In addition to work I perform directly for clients, I continued to work with my former employer into 2017 under numerous subcontracts for various of our clients.)

The main focus of my consulting practice has been the application of financial economics to the analysis of businesses, individuals, and municipalities. A major component of this work has been in the litigation context, while other work has entailed the assessment of regulatory impacts and the evaluation of public policy alternatives (including the calculation of financial assurance and trust funds for future liabilities).

I have been qualified as an expert witness numerous times in U.S. District Court trials and hearings, a federal government agency's Administrative Court hearings, and state courts (including Massachusetts). Among my professional memberships and activities, I have served as the Eastern Vice President for the National Association of Forensic Economics ("NAFE"), charged with – among other duties – organizing the four NAFE paper and/or panel sessions at the annual meeting of the Eastern Economic Association. I have also peer reviewed articles for NAFE's publication, the *Journal of Forensic Economics*.

In my consulting practice, I have performed calculations for economic damages and losses, both for private clients on a wide range of cases and also for federal government agencies on multi-billion-dollar breach-of-contract cases. Furthermore, in the area of unjust enrichment, or financial gain, I have served as an expert on numerous cases, drafted a guidance document for a federal government agency, created a computer model that allows laypersons to calculate unjust enrichment from environmental noncompliance, taught training courses to both federal and state staff, and coordinated academic peer reviews for such calculations.

I also have extensive experience in analyzing the financial performance and health of businesses, individuals, and municipalities, both to evaluate economic losses (as in cases like this one) and furthermore to evaluate the ability to afford regulatory expenditures: in the latter area I have worked on numerous cases, created computer models for a federal government agency, and taught training courses to both federal and state staff. For example, I developed (and continued into 2017 to provide support for) a computer model that a federal agency uses to assess individual finances, examining (in part) prior earnings and then projecting historical averages into the future.

My experience also includes the monetization of environmental damages, such as the application of the benefit transfer method. This is used to calculate economic values for ecological amenities by transferring the adjusted results from studies already completed in another – yet

roughly comparable – place, time, and/or activity. For example, monetary values that beachgoers have placed in the past for a particular beach can be applied to a different beach in the present time.

Further details on my background and experience are attached to the main body of this report in the form of my resume, which also includes a list of my publications and public presentations plus a list of the cases in which I have testified going back at least four years.

Documents that I have reviewed for this case include:

- The Fifth Amended Complaint in this matter, filed March 16, 2021, and the Class Action Complaint and Demand for Jury Trial in this matter, filed February 10, 2020.
- “Investigation of the Mississippi State Penitentiary (Parchman),” United States Department of Justice Civil Rights Division, April 20, 2022.
- “The Markov Model of Labor Force Activity 2012-17: Extended Tables of Central Tendency, Shape, Percentile Points, and Bootstrap Standard Errors,” by Gary R. Skoog, James E. Ciecka and Kurt V. Krueger, *Journal of Forensic Economics*, 28 (1-2), 2019.
- “Employment of Persons Released from Federal Prison in 2010,” U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, by E. Ann Carson, Danielle H. Sandler, Renuka Bhaskar, Leticia E. Fernandez, and Sonya R. Porter, December 2021.
- *Determining Economic Damages*, by Stanley P. Stephenson and David A. MacPherson (2021-22 edition).
- Settlements and jury awards as published by Lexis from U.S. courts, as cited specifically throughout my report.
- “Measuring Violations of Human Rights: An Empirical Analysis of Awards in Respect of Non-Pecuniary Damage under the European Convention on Human Rights,” *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht [Heidelberg Journal of International Law]*, by Szilvia Altwicker-Hàtori, Tilmann Altwicker, and Anne Peters, 2016, 76(1):1-51.
- “Measuring Damages for Violations of Individuals’ Constitutional Rights,” *Valparaiso University Law Review*, 1974; 8:57.
- “Damages: A Remedy for the Violation of Constitutional Rights,” *California Law Review*, December 1979, Vol. 67, No. 6.

- “Pain, Suffering, and Jury Awards: a Study of the Cost of Wrongful Convictions,” *Criminology and Public Policy*, by Mark A. Cohen, 2021; 20:691–727.
- Mississippi Department of Corrections, printouts for unique listing of inmates housed at Units 29 and 32, between January 1, 2018 and February 29, 2020.

I have also conducted independent research for various economic inputs as cited throughout my calculations in my report.

3. Basis for Opinion: Analytical Methodologies, Calculations, and Results – Pecuniary Damages

For inmate-specific injuries – or even death – that can reasonably be expected to result in pecuniary losses via the inability to gain employment upon release, the money damages can be calculated accurately on based on only four inmate-specific attributes, as follows:

- 1) gender,
- 2) death versus injury (i.e., as the cause of the inability to gain employment upon release),
- 3) date of birth, and
- 4) expected release date.

For the necessary additional parameters of my lost earnings calculations, the following subsections provide the bases for my inputs of:

- a. worklife expectancy,
- b. employed percentage of worklife expectancy upon release,
- c. self-consumption of earnings,
- d. earnings level when employed, and
- e. discount rate.

My model is presented in Table 1, on a separate page immediately following those subsections, with some illustrative results for different combinations of the four inmate-specific attributes. To perform the calculations for all inmates whose future work prospects were foreclosed because of injuries – or even death – suffered while at Parchman, I would need only those four previously referenced inmate-specific characteristics (i.e., gender, death vs. injury, date of birth, and expected release date), then the total pecuniary loss across all such inmates would be a simple matter of copying the calculation cells down across all the rows for the inmates.

a. Worklife Expectancy

For worklife expectancy, I rely on the peer-reviewed article “The Markov Model of Labor Force Activity 2012-17: Extended Tables of Central Tendency, Shape, Percentile Points, and Bootstrap Standard Errors,” by Gary R. Skoog, James E. Ciecka and Kurt V. Krueger, *Journal of Forensic Economics*, 28 (1-2), 2019.

This published paper offers many options for fine-tuning the worklife expectancy based on different individual attributes. For the purposes of my model in this matter, I use only gender and age, for a person previously employed and with a GED. All else being equal, and in general, the more educational attainment, the higher the worklife expectancy. For inmates without any college, who are likely to be the overwhelming majority of Parchman inmates with lost earnings, the paper's detailed tables provide four educational categories without any college:

- No Education through 9th Grade,
- 10th Grade to 12th Grade, No Diploma,
- GED, and
- High School Diploma

I use the GED educational attainment level for my model: it is in the middle of those four categories, and its values are fairly close to the other categories. For example, the worklife expectancy median values for a 30-year-old male across those four categories are 23.5, 23.5, 24.5, and 29.5; for a 40-year-old male, the respective median values are 16.5, 16.5, 17.5, and 21.5. Therefore, the fourth median value in each series, for a high school diploma, shows a noticeable increase. However, the third median value in each series, for a GED, shows only a slight increase among men without either a GED or high school diploma.

Therefore, based on all of the foregoing, the median value for the GED is in my opinion a reasonable approximation for all inmates in developing a lower-bound conservative (i.e., biased downward) model for the calculation of pecuniary damages via lost earnings.

b. Employed Percentage of Worklife Expectancy Upon Release

The previously presented worklife expectancy incorporates anticipated periods of not being employed. For released inmates, the prospects for employment are lower than that of the general population. To quantify this factor, I rely on the report, "Employment of Persons Released from Federal Prison in 2010," U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, by E. Ann Carson, Danielle H. Sandler, Renuka Bhaskar, Leticia E. Fernandez, and Sonya R. Porter, published December 2021.

Specifically, I use data from Table 5, which I average across the presented 17 quarters, starting with the quarter of release, then going out 16 quarters (i.e., four years). For women, the value is 44.8 percent, and for men the value is 35.1 percent. In other words, my model is calculating that women upon their release would have been employed for slightly less than half the time of their expected remaining worklife, but for their alleged injuries (or even death) that rendered them unable to participate in the workforce. For men, the figure is only slightly more than one-third of their expected remaining worklife.

c. Self-Consumption of Earnings

For inmates who died while at Parchman, they (or their estates, from a legal perspective) have lost their future earnings that would have been possible upon their anticipated release. But, had they lived, some portion of those earnings would have been spent. Although this can be perceived as somewhat morbid, netting out the savings (of a sort) from not being alive to spend a portion of one's earnings is a standard – albeit not universal – practice in my field.

To quantify this factor, I rely upon the publication, *Determining Economic Damages*, by Stanley P. Stephenson and David A. MacPherson (2021-22 edition). Specifically, I use 78.53 percent from Table 22C (“Expenditures by Income and Consumer Unit Size”) for one-earner single-consumer units for expenditures as a percent of before-tax income.

d. Earnings Level When Employed

I model all post-release inmate earnings at the minimum wage. Mississippi has no state-specific minimum wage and instead simply adopts the federal minimum wage. The federal minimum wage is currently \$7.25 per hour. For similar analyses in other cases, my default approach is to project current earnings levels into the future at a forecast for general economy-wide price inflation (whether via an explicit inflation forecast or via the forecast implicit in U.S. Treasury Inflation-Protected Securities, i.e., TIPS).

But the federal minimum wage was most recently increased in July of 2009. Had the federal minimum wage been increased over time to keep pace with the general price inflation, as measured by the Consumer Price Index (“CPI”), then it would have been \$10.29 as of July 2023, for an increase of a cumulative 41.9 percent over the intervening period.

A scenario under which the federal minimum wage stays constant into the foreseeable future to be covered by the pecuniary damages in this case would appear unlikely. Then again, a scenario under which the federal minimum wage stays constant over a 14-year period with a cumulative 41.9-percent increase in the cost of living also appears unlikely, yet that is exactly what has happened in the recent past.

Therefore, I use a constant \$7.25 per hour minimum wage, applied to 2,080 hours per year (i.e., 52 weeks multiplied by 40 hours per week) to develop a lower-bound conservative (i.e., biased downward) model for the calculation of pecuniary damages via lost earnings.

e. Discount Rate

To aggregate the earnings from different years into a common metric, I calculate their present value (“PV”).

The necessity of the present value adjustment is explained via the concept of the “time value of money.” For example, in simple terms, a dollar today is worth more than a dollar tomorrow, because investment opportunities are available for today’s dollar. Thus, the further in the future that a dollar will be obtained, the less it is worth in “present-value” terms. The greater the time value of money – i.e., the greater the “discount” rate – the less value future costs have in present-value terms. Therefore, the discount rate can be thought of as “exchange rate” between “currencies” of different years.

For my discount rate, I use the interest rate on U.S. Treasury securities, 20-year constant maturities, with a value of 4.61 percent as of August 22, 2023.

Table 1

PECUNIARY DAMAGES FROM LOST MINIMUM WAGE EARNINGS: INPUTS, CALCULATIONS, AND ILLUSTRATIVE RESULTS

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Name (Last/First), Gender, Death vs. Injury					Date of Birth	Expected Release:		Employ	Self-	PV Lost	
						Date	Age	Worklife	%	Consumption	Earnings
(1)	Doe	John	M	D	1-Jan-2000	15-Feb-2030	30	24.50	35.1%	78.53%	\$12,306
(2)	Doe	Jane	F	I	1-Jan-1990	1-Oct-2025	36	17.50	44.8%	0.00%	\$72,714

Notes:

(a)	Line number, for reference purposes only.
(b)	Name, last.
(c)	Name, first.
(d)	Gender.
(e)	Whether lost earnings are from death ("D") or injury ("I").
(f)	Date of birth.
(g)	Expected release, date
(h)	Expected release, age, calculated as: $[(g) - (f)] / 365.25$
(i)	Worklife expectancy at date of incident, median value, from peer-reviewed article, as fully referenced in main text of report.
(j)	Expected employed % of worklife expectancy upon release, based upon calc's from U.S. DOJ rpt, as fully referenced in main text.
(k)	If column (e) = Death, then 78.53%, based upon Table 22c in <i>Determining Economic Damages</i> , as fully referenced in report.
(k)	Calculated as: $(j) - [(k) - (h) / 365.25]$
(l)	Calculated as: Present Value $[4.61\%, (i), 2080 \times \$7.25] \times (j) \times [1 - (k)] / [1 + (4.61\%)]^{\{[(g) - \text{August 24, 2023}] / 365.25\}}$

3. Basis for Opinion: Analytical Methodologies, Calculations, and Results – Non-Pecuniary Damages

For non-pecuniary damages that have been suffered by inmates in comparable conditions, the following subsections address different possible approaches:

- a. The economic concept of Willingness to Pay (“WTP”).
- b. The economic concept of Willingness to Accept (“WTA”).
- c. Awards by U.S. courts.
- d. Awards by the European Court of Human Rights.

As explained in the following subsections, although WTP and WTA could in theory estimate the money damages on a class basis, in reality no such reliable WTP and WTA analysis can be performed for the conditions alleged by Plaintiffs in this matter. However, awards by U.S. courts, where publicly available (i.e., as opposed to confidential settlements), can be extrapolated to Plaintiffs as a class in the amount of approximately \$35.3 million. And awards by the European Court of Human Rights can be extrapolated to Plaintiffs as a class in the amount of approximately \$26.4 million.

a. Willingness to Pay (“WTP”)

Imagine a scenario under which an individual faces a high likelihood of being subjected to cramped and generally uncomfortable conditions for a period of several hours. But such conditions are almost certain to be limited to a set and predictable amount of time, with a modest likelihood of being extended by 15 to 30 minutes, yet highly unlikely to persist for much longer. How can we measure the money damages from such non-negligible yet transient discomfort?

The answer to economists is readily apparent: the market for different classes of airfare. For all of the widespread complaining about conditions in the main cabin of domestic flights, travelers almost always have an option to pay in advance to avoid being subjected to such discomfort. Furthermore, even within the main cabin, the on-line seat selection process often allows travelers to pay extra for to avoid a middle seat or to gain additional leg room.

To take myself as one such example, am I willing to pay the price differential to fly business or first class? For domestic travel, no. I focus on my laptop work or reading material, But, when I fly Southwest Airlines, I now pay the rather modest additional fee for EarlyBird Check-In so that I can be reasonably assured of a window seat and thereby focus better on my work or reading.

In theory, the money damages from being subjected to the conditions alleged at Parchman in this matter could be estimated by analyzing the price differential that inmates in other prison systems are willing to pay to upgrade their incarceration conditions from an experience comparable to that in the April 2022 investigation into the Parchman to conditions that avoid such deficiencies. But of course no such market exists (or least, not publicly documented).

b. Willingness to Accept (“WTA”)

Even when WTP can be estimated – from either formal marketplaces or other financial transactions – it is subject to a budget constraint. For example, imagine that the thought experiment in the prior section really did exist, such that prisoners could choose to pay a set amount to be incarcerated under better conditions. But many prisoners would not have the financial resources to pay much – or anything at all – to be incarcerated in better conditions. Even if their WTP for better conditions were almost nothing, that would not mean that their money damages from deficient conditions are negligible.

This deficiency of WTP is addressed by the concept of Willingness to Accept (“WTA”). Once again, the airline industry provides an excellent example: what value do you place on having a flight cancelled, and therefore facing the ramifications of arriving at your intended destination at a later time, or even date? The answer, at least for specific circumstances, is found in how much airlines offer to be voluntarily bumped for an oversold flight, and how many passengers accept those offers.

To take myself as an example, when I have been on my outbound flight, whether flying for pleasure or business, the offer has never so much as tempted me. On my return flight, my willingness to accept the offer depends on how the particular ramifications of the later flight options will affect me (and my family, awaiting my return).

To take a more extreme example, how much do people value avoiding having to face a 99.5-percent chance of death (and in harrowing circumstances too)? The answer for some subset of the population is 45.6 billion. Or some chance of winning that amount. In South Korean Won. Which is currently about \$34 million in U.S. currency. So about \$1.7 million on an expected value basis (i.e., \$34 million multiplied by 0.5 percent).

But that is of course from the television series *Squid Game*, which is of course entirely fictional – even if perhaps it is intended to illustrate the additional risk, discomforts, and abuse that many people are willing to accept in return for monetary compensation, thereby illustrating the money damages from such risk, discomforts, and abuse.¹

¹ My calculation of the 99.5-percent chance of death is based upon the 187 players who returned after the first game. By contrast, the 456 players who initially accepted the offer were clearly deceived about the nature of what they were accepting. After the second game, 201 players survived, so arguably the chance of
(continued...)

To take a less extreme example, my graduate thesis at Harvard University examined whether underground coal workers are fully compensated for their occupational health and safety risks they face, both in the near-term (e.g., explosions, roof collapses) and in the long-term (e.g., coal workers' pneumoconiosis, aka Black Lung Disease). Such workers are not explicitly paid set amounts for specific risks. But their wages can be examined, compared to less-risky work, to assess their willingness to accept such risk, and hence how they value such risks.²

c. Results from Awards by U.S. Courts

Published studies on the money damages from incarceration generally focus on wrongful incarceration. But that is not at issue in this matter (even if perhaps some subset of the inmates had indeed been wrongfully incarcerated). Instead, the issue, from my perspective as an economist, is the measurement of money damages from the conditions of that incarceration at Parchman (regardless of the processing of the criminal justice system up until the point of incarceration).

As I noted earlier in this report, my experience as a professional economist includes the monetization of environmental damages, such as the application of the benefit transfer method. This is used to calculate economic values for ecological amenities by transferring the adjusted results from studies already completed in another – yet roughly comparable – place, time, and/or activity. For example, values that beachgoers have placed in the past for a particular beach can be applied to a different beach in the present time.

The context of this matter might seem different at first from valuing environmental amenities. But from an analytical perspective, it is similar: how much value do people place on avoiding the loss of a fishing stream from a chemical spill, avoiding a lake beach closure from a water quality exceedance, or avoiding being subjected to inhumane conditions?

Settlements in other incarceration cases mainly seem to be confidential. However, Table 2, on the following page, provides a small sample of publicly available awards.

¹ (...continued)

death could be anticipated as 200 out of 201, but the again, players had no idea how many would return, so perhaps each player mistakenly thought that only a few other players would return after the horrific massacre of the first game. Hence many, most, or even all of the 187 returning players were overestimating their chance of collecting the prize money. But then again, the reunited players in the third episode did not seem surprised at the 93-percent return rate, although perhaps they were suppressing their disappointment at the number of returnees so as to project a more confident demeanor in front of the other players, who, no matter how cooperative at first, would ultimately be their competitors.

² In the reverse of the fictional *Squid Game*, whose 456 initial players were intentionally kept uninformed of the near-certainty they faced of death, I found widespread evidence during the research for my graduate thesis that underground coal workers could form a reasonably accurate assessment of their occupational risks. And hence their wage differentials reflected their money damages from such risks.

Table 2

U.S. COURT AWARDS

(a)	(b) Caption	(c) Lexis	(d) Date	(e) Award	(f) CPI	(g) 2023	(h) Plaintiffs	(i) Per Plaintiff
(1)	Estate of Gregory Fox, Deceased, by Janet Lowder, Administrator v. Cuyahoga County, Ohio, Ingrid DiMarino, and Unknown Correctional Officers 1-5	324260	13-Oct-2000	\$950,000	108.1	\$1,649,915	1	\$1,649,915
(2)	John D. White, individually; Beverly Ann White, individually; Estate of John Douglas "J.D." White, by and through his successors in interest, John D. White and Beverly Ann White v. State of California, Frederick A. Brown, Warden of California State Prison-Corcoran, et al.	42674	4-Nov-2005	\$850,000	121.4	\$1,314,510	1	\$1,314,510
(3)	Matthew Everhart, Robert Fisher, Shawn Laverty, Thomas Piscotty, Jack Asencio, and Jeffrey Bissonnette v. Board of Chosen Freeholders of the County of Sussex, Office of the Sussex County Sheriff and Robert Uuntig, individually and in his official capacity of Sussex County Sheriff, the State of New Jersey	421588	19-Apr-2010	\$25,830	134.606	\$36,027	6	\$6,005
(4)	Michael Roberts v. Ohio Department of Rehabilitation and Correction	7262	5-Aug-2013	\$7,500	145.056	\$9,707	1	\$9,707
(5)	Thomas DeAngelo v. State of New York	58270	13-Dec-1999	\$1,500	105.2	\$2,677	1	\$2,677
(6)	Townsend v. Allen	228	2007	\$29,500	127.422	\$43,465	1	\$43,465

Notes:

(a) Line number, for reference purposes only.

(b) Case caption.

(c) Lexis reference number.

(d) Date of award.

(e) Lexis reference number.

(f) Consumer Price Index ("CPI") value as of date in column (d), for all items in South - Size Class B/C, all urban consumers, not seasonally adjusted.

(g) Value of award in 2023 dollars, calculated as: (e) / (f) x 187.743 (i.e., CPI value as of July 2023).

(h) Number of plaintiffs.

(i) Calculated as: (g) / (h)

As previously shown in Table 2, of the six cases, two resulted in significantly high awards. However, as can be inferred even merely from reading the captions for those two cases, the alleged wrongful acts led to (at least in part) to the deaths of those two inmates.

For the other four cases, the awards are relatively modest. The median of those four non-death cases, adjusted for general price inflation to July 2023 dollars, is \$7,856. (Since the number of data observations is an even number, the median, instead of being the number in the middle, is the average of the two middle numbers.)

Table 3 below provides the results of my benefit transfer method. As shown in Table 3, these U.S. courts awards from Table 2 can be extrapolated to Plaintiffs as a class in the amount of approximately \$35.3 million.

Table 3		
NON-PECUNIARY DAMAGES BASED ON U.S. COURT AWARDS		
<u>Description</u>		<u>Value</u>
(1)	Median value from non-death cases in Table 2	\$7,856
(2)	Inmates Jan 2018 through Feb 2020, Unit 29	3981
(3)	Inmates Jan 2018 through Feb 2020, Unit 32	512
(4)	Inmates Jan 2018 through Feb 2020, Units 29 + 32 total	4493
(5)	Non-pecuniary damages for the class	\$35,297,008
Notes:		
(1)	Median value for non-death cases in Table 2 column (i).	
(2) & (3)	Counts for unique listings of inmates, MS Department of Corrections.	
(4)	Calculated as: (9) + (10)	
(5)	Calculated as: (8) * (11)	

d. Results from Awards by the European Court of Human Rights

Following the same approach as the prior subsection of my report, I have reviewed the peer-reviewed article, "Measuring Violations of Human Rights: An Empirical Analysis of Awards in Respect of Non-Pecuniary Damage under the European Convention on Human Rights," *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* [Heidelberg Journal of International Law], by Szilvia Altwicker-Hámori, Tilmann Altwicker, and Anne Peters, 2016, 76(1):1-51.

The European Court of Human Rights covers many “protected interests” that can be used as proxies for the experienced alleged to have been suffered by the Plaintiffs in this matter. Although that Court does not follow a strict schedule for awards, the paper’s authors conclude that, “Our empirical results contradict the frequently voiced academic reproach that the Court’s practice is arbitrary or unprincipled.”

Table 4 below provides the results of my benefit transfer method. As shown in Table 4, awards by the European Court of Human Rights can be extrapolated to Plaintiffs as a class in the amount of approximately \$26.4 million.

Table 4		
NON-PECUNIARY DAMAGES BASED ON EUROPEAN COURT OF HUMAN RIGHTS AWARDS		
	Description	Value
(1)	Amount awarded in respect of non-pecuniary damage, 2006	€ 3,000
(2)	Protected interest: Life, physical and mental integrity	2.58%
(3)	Adjusted for violations of life, physical and mental integrity	€ 3,077
(4)	Exchange rate for Euro to USD, 2006 average closing price	1.26
(5)	USD equivalent, 2006	\$3,878
(6)	Consumer Price Index, 2006 average	123.9
(7)	Consumer Price Index, 2023 July	187.743
(8)	USD equivalent, 2023	\$5,876
(9)	Inmates Jan 2018 through Feb 2020, Unit 29	3981
(10)	Inmates Jan 2018 through Feb 2020, Unit 32	512
(11)	Inmates Jan 2018 through Feb 2020, Units 29 + 32 total	4493
(12)	Non-pecuniary damages for the class	\$26,398,750
Notes:		
(1)	Median HUDOC 2006 awards, in Euros.	
(2)	Percentage adder for such violations.	
(3)	Calculated as: (1) * [1 + (2)]	
(4)	https://www.macrotrends.net/2548/euro-dollar-exchange-rate-historical-chart	
(5)	Calculated as: (3) * (4)	
(6) & (7)	All items in South - Size Class B/C, all urban consumers, not seasonally adjusted.	
(8)	Calculated as: (5) / (6) * (7)	
(9) & (10)	Counts for unique listings of inmates, Mississippi Department of Corrections.	
(11)	Calculated as: (9) + (10)	
(12)	Calculated as: (8) * (11)	

5. Qualifications and Signature

As previously noted under the section entitled Basis for Opinion: Professional Expertise and Materials Considered, I have separately provided my Curriculum Vitae as this report's Attachment A, which also includes a list of my publications and public presentations going back at least ten years and testimony experience going back at least four years. I receive compensation of \$350 per hour for the time that I have spent preparing this report in calendar year 2023. For testimony in 2023 I would also receive the same rate of \$350 per hour.

I declare under the penalty of perjury that the statements in this report are true and accurate to the best of my knowledge.

A handwritten signature in black ink, reading "Jonathan A. Sheffey". The signature is written in a cursive style with a large initial 'J' and a stylized 'S'.

Attachment A: Curriculum Vitae

JONATHAN S. SHEFFTZ

**d/b/a JShefftz Consulting
14 Moody Field Road
Amherst MA 01002**

Mr. Shefftz is an independent consultant who specializes in the application of financial economics to litigation disputes, regulatory enforcement, and public policy decisions. Previously he was a consultant with Industrial Economics, Incorporated (“IEc”) from 1992 until 2006 when he moved to western Massachusetts. Mr. Shefftz has extensive experience in settlement and litigation support, and has been qualified as an expert witness in U.S. District Court, a federal agency’s Administrative Court, and state courts.

Mr. Shefftz’s recent experience includes work in the following areas.

- Calculating the economic damages suffered by companies and individuals from alleged wrongful actions.
- Applying financial economics to civil penalty factors in regulatory enforcement actions.
- Analyzing financial economic issues related to public policy decisions.

Mr. Shefftz has performed this work in a variety of contexts, including expert witness testimony, computer model development, training course delivery, and regulatory review. He has supervised project teams comprising economists, accountants, paralegals, and software developers, as well as worked in parallel with engineers, scientists, lawyers, and lobbyists. His clients have included federal and state governmental agencies, private litigators, and other private-sector entities.

Mr. Shefftz holds a B.A. *magna cum laude* and *Phi Beta Kappa* in Economics and Political Economy from Amherst College, and an M.P.P. degree, with concentrations in Government & Business and Energy & Environmental Policy, from the John F. Kennedy School of Government at Harvard University.

Mr. Shefftz’s positions have included Eastern Vice President for the National Association of Forensic Economics, Chair for the Town of Amherst Planning Board, referee for the *Journal of Forensic Economics*, Course Liaison for the “Engineering Economic Decision Making” course at the University of Massachusetts Amherst, and Treasurer for the Jewish Community of Amherst, American Avalanche Association, Moody Field Homeowner Association, and U.S. Ski Mountaineering Association. He is also a member of the Government Finance Officers Association, American Academy of Economic and Financial Experts, and Amherst Area Chamber of Commerce.

JONATHAN S. SHEFFTZ

Economic Damages and Unjust Enrichment

Mr. Shefftz has experience with the following work on economic damages and unjust enrichment, including expert witness testimony both in deposition and at trial. He has also applied his expertise in unjust enrichment calculation, financial statement analysis, municipal financial assessment, and corporate control / ownership issues in the context of environmental regulatory enforcement cases, as described in a separate section on a successive page.

Business Damages and Unjust Enrichment

Mr. Shefftz has modeled companies' cash flows under hypothetical "but-for" states of the world versus actual states of the world to calculate business damages in numerous cases. Sample contexts include allegations by: an engineering firm that lost business to a spin-off competitor, timber companies whose contracts were breached via implementation of Congressional legislation, a furniture company whose joint venture was interfered with by a key customer, a fixed base operator prohibited from selling jet fuel by a municipal airport commission, a brownfields remediation firm whose key principal became incapacitated, a state-chartered joint underwriting association whose servicing carrier incorrectly determined premiums, a transportation company that received contaminated fuel, a social networking website imperiled by a developer's nondelivery, an entrepreneur whose computer code was discarded by a demolition crew, an industrial facility whose environmental control facility was undersized by an engineering consultant, a data center operator whose contracting officer received kickbacks, a whistleblower who reported environmental violations under the New York False Claims Act, a whistleblower who reported prescribing practices by a specialty pharmacy, a sports organization whose apparel licensee breached a contract, a food processor whose operations were interrupted by an industrial boiler's natural gas explosion, and a solar power panel installation company whose supplier provided defective equipment

Personal Damages / Losses

Mr. Shefftz has assessed lost earnings and household services along with incurred and anticipated medical costs in numerous cases involving wrongful death, personal injury, wrongful termination, estate disputes, credit card interest overcharges, divorce, and inhumane treatment. Sample contexts include allegations of employment discrimination, medical malpractice, workplace injuries, vehicular accidents, physical assault, retail store accidents, outdoor recreation, below-market earnings, lead poisoning, professional license revocation, violations of the Servicemembers Civil Relief Act, an arrest instigated by a former spouse, and judicial incarceration.

JONATHAN S. SHEFFTZ

Economic Damages and Unjust Enrichment (continued)

FIFRA Pesticide Data Compensation

Mr. Shefftz has been retained to assess the data compensation amount owed by a follow-on registrant to the original product registrant under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Present Value of Life Care Plans

Mr. Shefftz has calculated the present value of life care plan projections in numerous cases, both on their own and in connection with personal damages and losses. He has extensive experience in efficiently adjusting the varying periodicities of life care plans into a standardized format.

Water Contamination

For a real estate development, Mr. Shefftz analyzed the diminution in value by projecting the groundwater contamination-induced delayed schedule versus the original schedule. On a claim to have developed groundwater assets but for contamination, he testified on the municipality's impaired financial condition at the time. On a class action lawsuit by property owners, he evaluated the defense economist's statistical analysis of property values. On other water contamination lawsuits, he has calculated the damages from the need to switch to alternative sources of water, including a desalination plant, whole-house drinking water systems, and a neighboring utility.

Intellectual Property

For defense counsel in a copyright infringement lawsuit, Mr. Shefftz assessed declarations from the plaintiff's expert economist who asserted that a "companion" book would damage the author of the original series of novels. He also assisted counsel with preparation for trial cross examination.

Computer Model Development

For the U.S. Department of Justice Commercial Litigation Branch, Mr. Shefftz developed a standalone computer model for statutorily determined interest under the Contract Disputes Act.

JONATHAN S. SHEFFTZ

Financial Factors in Environmental Regulatory Enforcement

Mr. Shefftz is experienced with the following work on environmental regulatory enforcement actions brought under the Asbestos Hazard Emergency Response Act (AHERA), Clean Air Act (CAA), Clean Water Act (CWA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Emergency Planning and Community Right-to-Know Act (EPCRA), False Claims Act (FSA), Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Oil Pollution Act (OPA), Resource Conservation and Recovery Act (RCRA), Safe Drinking Water Act (SDWA), Spill Prevention, Control and Countermeasure (SPCC) rule, Toxic Substances Control Act (TSCA), Underground Storage Tank (UST) program, as well as various state statutes. Mr. Shefftz has been qualified as an expert witness on numerous occasions in federal, administrative, and state courts. His clients for this work have included the U.S. Environmental Protection Agency (EPA), U.S. Department of Justice (DOJ), private litigators, state Attorneys General, and defense counsel.

Financial Statement Analysis / Ability-to-Pay / Economic Impact / Corporate Control & Ownership

Mr. Shefftz has examined the tax returns, financial statements, and other financial documentation for individuals, businesses, not-for-profits, municipalities, and all four unincorporated organized U.S. territories, to assess the ability to pay for – and/or economic impact of – sought environmental expenditures, e.g., compliance costs, penalty demands, and cleanup/remediation costs. He has reviewed discovery documents and conducted research in many cases to assess the extent to which subsidiaries can rely on their corporate parents for financial support and the extent to which corporate control of subsidiaries goes beyond that exercised by mere ownership.

Financial Gain / Economic Benefit / Unjust Enrichment

Mr. Shefftz has modeled companies' and municipalities' cash flows under hypothetical full and timely compliance states of the world versus actual delayed compliance states of the world to calculate the economic benefit (i.e., financial gain or unjust enrichment) on numerous enforcement actions. As part of this work, he has estimated the weighted-average cost of capital for a wide variety of companies and industries.

JONATHAN S. SHEFFTZ

Financial Factors in Environmental Regulatory Enforcement (continued)

Other Financial Factors in Environmental Regulatory Enforcement Actions

Mr. Shefftz has performed work on other financial factors in regulatory enforcement actions: the “size of violator” penalty element; the relative weight of different financial indicators for establishing deterrence; and, the adequacy of financing plans to ensure environmental compliance.

Computer Model Development, Training, and Support

Mr. Shefftz has managed the development of the current versions of the BEN, PROJECT, ABEL, INDIPAY, and MUNIPAY computer models that U.S. EPA’s Office of Enforcement and Compliance Assurance applies to financial economics issues in enforcement actions. He has prepared the models’ help systems and training materials, as well as presented training courses and provided related support for federal and state enforcement staff. Mr. Shefftz has also assisted in several U.S. EPA academic peer reviews and public comment processes for the BEN computer model and related economic benefit recapture issues. And he has created versions of the models for other nations: Canada (BEN), Chile (BEN and ABEL), and El Salvador (BEN).

JONATHAN S. SHEFFTZ

Public Policy

Cost of Capital Estimation

Mr. Shefftz assessed peer reviewer comments and then revised a draft report on cost of capital estimation for water systems. His work included applying the capital asset pricing model to the commercial drinking water industry and correcting for the earlier draft's assumptions regarding capital structure and industry-level business risk.

Financial Assurance

For a state agency, Mr. Shefftz proposed appropriate inflation forecasts and discount rates, drafted a guidance document, and then developed a stand-alone computer model to calculate the net present value of future remediation costs. For EPA's Office of Solid Waste, he provided recommendations on discounting future cleanup costs; for the Office of Site Remediation and Enforcement, he created a computer model to assess the combined affordability of financial assurance and cleanup costs; for another EPA office, he created a spreadsheet model to calculate the insurance and/or trust fund amounts necessary to provide for post-closure care. For the U.S. Department of the Interior's Office of Surface Mining Reclamation and Enforcement, he reviewed other agencies' approaches and developed a spreadsheet model to calculate initial trust fund amounts and then recalculate subsequent years' annual rebalancings to reflect actual returns and additional future costs. For a not-for-profit, he reviewed draft reports on the potential role of financial assurance in the regulation of hydraulic fracturing (i.e., "fracking").

Proposed Legislation

For an industry association, Mr. Shefftz designed and implemented a survey and analyzed its results to predict the impacts of a proposed national lead tax upon lead consumption and dependent industrial sectors. For a national waste management firm, he analyzed the financial impacts of a proposed state tax on hazardous waste land disposal. For a citizen group, Mr. Shefftz assessed the economic efficiency of proposed state regulations for municipal water treatment intended to mitigate degradation of coastal waters.

JONATHAN S. SHEFFTZ

Public Policy (continued)

Joint Cost Allocation

For a study of Bureau of Reclamation rate setting for California's Central Valley Project, Mr. Shefftz researched economically efficient methods for allocating water project costs to user classes.

Superfund Impacts

Mr. Shefftz examined the Department of Energy SURE model's predictions of economic impacts from Superfund liability and cost allocation reform. At a Superfund site, he critiqued a small city's claims that a proposed contaminated soil cleanup would lead to widespread economic disruptions.

Legislative Review

For the 1990 Clean Air Act amendments, Mr. Shefftz investigated the potential of fuel oxygenation requirements to cause petroleum refinery closures. For the Safe Drinking Water Act, he reviewed EPA's national-level drinking water affordability criteria, assessed their implications for small water systems' finances, proposed alternative criteria, created databases to predict how many systems would be judged unable to afford drinking water rules, evaluated public comments, and drafted text of a report in response to a Congressional charge.

Permit Applications

For a citizen group, Mr. Shefftz assessed the economic analysis report accompanying a permit application for a crude oil export terminal with regard to the criteria specified in the state constitution. For another citizen group, he assessed an engineering report and its companion economic and fiscal impact report accompanying a permit application for a wastewater treatment plant with regard to the social and economic factors specified in the state antidegradation regulations.

JONATHAN S. SHEFFTZ

Representative Clients

Mr. Shefftz has been retained by the following clients, whether directly as an independent consultant, during his prior employment at Industrial Economics, Incorporated ("IEc"), and/or as an independent consultant via subcontract with IEc.

State Agencies:

California
Illinois
Massachusetts
New Hampshire
Ohio
Texas
Washington

Connecticut
Indiana
Michigan
New Mexico
Pennsylvania
Virginia
Wisconsin

Federal / National Agencies:

U.S. Department of Justice (Civil Division – Commercial Litigation Branch; Environment and Natural Resources Division – Environmental Enforcement Section, Environmental Defense Section)

U.S. Environmental Protection Agency (various Headquarters Offices and Regional Counsels)

U.S. Fish and Wildlife Service (within U.S. Department of Interior)

National Oceanic and Atmospheric Administration (within U.S. Department of Commerce)

Office of Surface Mining Reclamation and Enforcement (within U.S. Department of Interior)

Superintendencia del Medio Ambiente (Chile)

Ministerio de Medio Ambiente y Recursos Naturales (El Salvador)

JONATHAN S. SHEFFTZ

Representative Clients (continued)

Industry:

3M Company	Advanced Flow Engineering, Inc.
Bouncing Cranberries LLC	Circle Environmental, Inc.
Country Villa Bay Vista Healthcare Center	CWM Chemical Services, Incorporated
Diesel Performance Parts, Inc.	ERL Medical Corporation
Fortune Global 500 Company [identity kept confidential as per client request]	
Frasco Fuel Oil	French Heritage, Inc.
Infinity Fluids Corporation	Keystone Automotive Operations, Inc.
Kinder Morgan	Kroger Specialty Pharmacy
Manassas NCP FF, LLC	National Coating Corporation
Lead Industries Association	MedMal Joint Underwriting Ass'n of RI
Musco Family Olive	NSIPI Administrative Manager
Professional Contract Sterilization, Inc.	Prolerized New England Co., Inc.
Rectrix Aerodome Centers, Inc.	Stebbins-Duffy, Inc.
Sterling NCP FF, LLC	Taotao USA, Inc.
Valley Solar	
WDC Holdings LLC d/b/a Northstar Commercial Partners	

In addition to the industry clients listed above, Mr. Shefftz has also performed work on behalf of numerous other industry clients and their insurers on economic damages cases, but without any direct interaction with such parties and their insurers or any analytical focus on them.

JONATHAN S. SHEFFTZ

Representative Clients (continued)

Citizen Groups:

Advance Etowah
Alabama Environmental Council
Appalachian Voices
Black Warrior Riverkeeper
Center for Comm. Action & Environ. Justice
Citizens Against Ruining the Environment
Communities for a Healthy Bay
Coosa Riverkeeper
Earthrise Law Center
Environment America Research & Policy
Environmental Defense Center
Environmental Law and Policy Center
Food & Water Watch
Friends of the Lower Keys
Grand Canyon Trust
High Country Conservation Advocates
Idaho Conservation League
Inst. for Governance & Sustainable Develop.
Louisiana Environmental Action Network
National Environmental Law Center
Natural Resources Defense Council
Northwest Environmental Defense Center
Okanogan Highlands Alliance
Orange County Coastkeeper
Our Children's Earth Foundation
PennEnvironment
Prairie Rivers Network
Puget Soundkeeper Alliance
RE Sources for Sustainable Communities
St. Bernard Citizens for Environ. Quality
San Francisco Baykeeper

Advocates for the West
Appalachian Mountain Advocates
Biodiversity Conservation Alliance
Center for Biological Diversity
Center for Justice
Clean Air Council
Conservation Law Foundation
Earthjustice
Ecological Rights Foundation
Environmental Advocates of New York
Environmental Integrity Project
Environment Texas Citizen Lobby, Inc.
Friends of Lick Creek
Frontier Group
Gulf Restoration Network
Hoosier Environmental Council
Inland Empire Waterkeeper
Louisiana Bucket Brigade
Lower Susquehanna Riverkeeper Association
National Parks Conservation Association
Newark Education Workers Caucus
Ohio Valley Environmental Coalition
Olympic Forest Coalition
Oregon Public Interest Research Group
Pacific Environmental Advocacy Center
Potomac Riverkeeper
Public Justice
Raritan (NY/NJ) Baykeeper
Respiratory Health Association
San Antonio Bay Estuarine Waterkeeper
Save the Sound

JONATHAN S. SHEFFTZ

Representative Clients (continued)

Citizen Groups (continued):

Sierra Club
Spokane Riverkeeper
Tampa Bay Waterkeeper
Toxics Action Center, Inc.
United States Public Interest Research Group
Waste Action Project
Wild Fish Conservancy
Willamette Riverkeeper

South River Watershed Alliance, Inc.
Suncoast Waterkeeper
Texas Rio Grande Legal Aid, Inc.
Tulane Environmental Law Clinic
Univ. of Denver Environmental Law Clinic
West Virginia Highlands Conservancy
WildEarth Guardians

JONATHAN S. SHEFFTZ

Representative Clients (continued)

Law Firms:

Adler, Cohen, Harvey, Wakeman & Guekguezian	Law Office of Jacqueline L. Allen
Allyn & Ball, P.C.	Aqua Terra Aeris Law Group
Arnold & Porter LLP	Barton Gilman LLP
Bayh, Connaughton and Malone	Beveridge & Diamond PC
Bricklin & Newman, LLP	Brown Legal PLLC
Brownstein Hyatt Farber Schreck, LLP	Butler Snow LLP
Cain, Sherry, Geller & Vachereau	Calderón & Williams
ChasenBoscolo	Chihak & Martel
The Law Offices of William Chu	Clinton & Muzyka, P.C.
The Collins Law Firm, P.C.	Cooper & Lewand-Martin, Inc.
D'Ambrosio Law Offices	DarrowEverett LLP
Davison Law, LLC	DeCotiis, FitzPatrick & Cole, LLP
Law Offices of John K. Dema, P.C.	DLA Piper
Doherty, Wallace, Pillsbury & Murphy	Donovan Hatem LLP
Downey Brand LLP	Dreyer Boyajian LLP
Frederick, Perales, Allmon & Rockwell, PC	Law Office of Austin J. Freeley
Gallagher & Cavanaugh LLP	The Garcia Law Firm
Garnett Powell Maximon Barlow	German Rubenstein LLP
Gordon Rees Scully Mansukhani, LLP	David S. Hammer, Esq.
Hanson Curran LLP	George E. Hays, Esq.
Henrichsen Siegel Moore, PLLC	Hoffner PLLC
Hogan Lovells US LLP	Hunsucker Goodstein PC
Kampmeier & Knutsen PLLC	Kaplan, Massamillo & Andrews, LLC
Kasowitz, Benson, Torres & Friedman LLP	Keches Law Group
Law Office of David E. Keller	Keller Rohrback L.L.P.
Kirby McInerney LLP	James E. Kolenich, Esq.
Law Office of Amy Kropke	Meryl A. Kukura, Esq.
Kenneth Lieberman, Esq.	Lawson & Weitzen, LLP
Lozeau Drury LLP	Lucentini & Lucentini LLP
Mackie Shea O'Brien, PC	Manson Bolves Donaldson Varn
Mark, Migdal & Hayden LLC	Marr Law Offices

JONATHAN S. SHEFFTZ

Representative Clients (continued)

Law Firms (continued):

Meyers Nave
MFI Law Group PLLC
Morrison & Foerster LLP
Motley Rice LLC
Nelson Mullins Riley & Scarborough LLP
Law Office of Michael D. Parker
Pierce Atwood LLP
Plaza Law Group
Ransmeier & Spellman P.C.
Reardon Law Office LLC
Rubin and Rudman LLP
Ryan & Kuehler PLLC
Ryan Whaley Coldiron Shandy PLLC
Sasson, Turnbull, Ryan & Hoose
Jon L. Schwartz, Attorney at Law, P.C.
Sheff & Cook, LLC
Simonds, Winslow, Willis & Abbott
Steve Harvey Law LLC
Sycamore Law
Van Ness Feldman LLP
Law Offices of Charles G. Walker
Wilson Elser Moskowitz Edelman & Dicker
Zaytoun Ballew & Taylor, PLLC

Meyner and Landis LLP
Law Offices of Keith A. Minoff, P.C.
Morrison Mahoney LLP
Law Office of Jennifer F. Novak
Oliver Law Group
Patton Boggs LLC
Edward M. Pikula, Esq.
Powell Environmental Law
Raymond Law Group LLC
Reed Smith LLP
Law Offices of Russo & Minchoff
Ryan, Ryan, Johnson & Deluca, LLP
Sartini Law, PC
The Schreiber Law Firm
Richard Schwartz & Associates, P.A.
Silverstein, Silverstein & Silverstein P.A.
Smith & Lowney, PLLC
Stoel Rives LLP
Todd & Weld LLP
Vorys, Sater, Seymour and Pease LLP
Waltzer Wiygul & Garside LLC
Reed Zars, Esq.

JONATHAN S. SHEFFTZ

Publications and Presentations

Structural Changes in Interest Rates, paper discussant at Western Economic Association International Conference (on-line), 7/1/22.

Cause and Effect: The Asymmetry in Deducing Effect and Inferring Cause, paper discussant at National Association of Forensic Economics Eastern Meeting (on-line), 2/25/22.

How Good Is My Degree? Economic Damages from False Claims by Colleges, paper discussant at Western Economic Association International Annual Conference (on-line), 6/27/21.

Social Security Losses in Personal Injury, paper discussant at Western Economic Association International Annual Conference (Portland OR), 7/1/16.

The "Loss of Chance" Rule in the Various States, paper discussant at Allied Social Sciences Association Annual Conference (Philadelphia PA), 1/4/14.

Foreign Net Discount Rates: The Case of Undocumented Mexican Workers, paper discussant at Western Economic Association International Annual Conference (Seattle WA), 6/30/13.

Evolving Transition Probabilities and Worklives, paper discussant at Allied Social Sciences Association Annual Conference (San Diego CA), 1/5/13.

Commercial Damages Calculations, panelist at Eastern Economic Association Annual Conference (Boston MA), 3/10/12.

Medical Net Discount Rates: 1980 - 2011, paper discussant at Eastern Economic Association Annual Conference (Boston MA), 3/10/12.

The Value of Future Earnings in Perfect Foresight Equilibrium, paper discussant at Allied Social Sciences Association Annual Conference (Denver CO), 1/8/11.

The Role of the Economic Expert in Litigation Directed at Piercing the Corporate Veil, presentation at Fall Forensic Economics Workshop (Durango CO), 10/8/10.

Alternative Perspectives for Breach-Nonbreach Scenario Specifications in Commercial Litigation, paper presentation at Western Economic Association International Annual Conference (Portland OR), 7/1/10.

Sampling Issues in Commercial Damages Cases, paper discussant at Western Economic Association International Annual Conference (Vancouver BC), 7/1/09.

Net Discount Rates: Does Duration Matter?, paper discussant at Eastern Economic Association Annual Conference (Boston MA), 3/7/08.

JONATHAN S. SHEFFTZ

Publications and Presentations (continued)

Enforcement Economics: Deterrence, Economic Benefit, & Ability to Pay, presentation at California Environmental Protection Agency State Water Resources Control Board “Enforcenomics” Workshop (Berkeley CA), 1/11/08.

Alternative Focuses for “But-For” Scenario Specification in Commercial Litigation, paper presentation at Western Economic Association International Annual Conference (Seattle WA), 6/30/07.

Expert Witness Role Play, presentation at U.S. EPA 9th Financial Analyst Workshop (Atlanta GA), 5/3/07.

Working with Experts in Environmental Cases: An Expert Economist’s Perspective on Expert Testimony, presentation at Public Interest Environmental Law Conference (Eugene OR), 3/2/07.

Alternative Measures and Focuses for Economic Damages Calculations, paper presentation at Eastern Economic Association Annual Conference (New York NY), 2/23/07.

Lost Profit as a Measure of Lost Earning Capacity, panelist at Western Economic Association International Annual Conference (San Francisco CA), 7/7/05

“EPA’s Economic Benefit Analysis Policy and Practice,” *Natural Resources and Environment*, Fall 2004.

“Taxation Considerations in Economic Damages Calculations,” *Litigation Economics Review*, Summer 2004.

Economic Benefit and Wrongful Profits in the Calculation of Penalties for Environmental Violations, presentation to Boston Bar Association Environmental Litigation Committee, 9/23/04.

Business Valuation / Commercial Damages, panelist at Western Economic Association International Annual Conference (Vancouver BC), 7/1/04.

“Wrongful Profits: Setting the Record, and the Concept, Straight,” *Environment Reporter*, 1/2/04.

Present Value Sensitivity to Ex Ante vs. Ex Post Perspective, paper presentation at Western Economic Association International Annual Conference (Denver CO), 7/12/03.

Taxation Considerations in Economic Damages Calculations, paper presentation at Eastern Economic Association Annual Conference (New York NY), 2/22/03.

JONATHAN S. SHEFFTZ

Publications and Presentations (continued)

Economic Benefit from Illegal Competitive Advantage and Complex Economic Benefit Scenarios, presentation at U.S. EPA 5th Financial Analyst Workshop (Boston MA), 7/26/00.

Economic Benefit in Wetlands Cases: Financial Analysis Issues, presentation at U.S. EPA Wetlands Enforcement Conference (Alexandria VA), 3/22/00.

Economic Benefit, presentation at U.S. EPA 4th Analyst Workshop (Denver CO), 3/10/99.

JONATHAN S. SHEFFTZ

Testimony History

Sierra Club et al. v. Midwest Generation, LLC (Illinois Pollution Control Board), deposition 10/28/21 and hearing testimony 5/16&17/23.

The State of New York, et al. v. Covanta Hempstead Company and Covanta Holding Corporation (NY Supreme Court), affidavit 5/04/23.

James F. Riley, Jr. and Pamela B. Bankert v. Timothy S. Martinez, D.M.D. et al. (Mass. Superior Court), courtroom testimony 03/20/23.

Amazon.com, Inc. and Amazon Data Services, Inc. v. WDC Holdings LLC dba Northstar Commercial Partners et al. (USDC ED Va), deposition 12/21/22.

Sierra Club, Inc. and Conservation Law Foundation, Inc. v. Granite Shore Power LLC et al. (USDC ED NH), deposition 11/11/20 and courtroom testimony 10/20/22.

San Francisco Baykeeper v. City of Mountain View and San Francisco Baykeeper v. City of Sunnyvale (USDC ND Calif.), deposition 8/18/21.

Sierra Club v. Woodville Pellets, LLC (USDC ED Texas), deposition 7/29/21.

Environmental Law & Policy Center and Hoosier Environmental Council v. Cleveland-Cliffs Burns Harbor, LLC and Cleveland-Cliffs Steel (USDC ND Indiana), deposition 7/14/21.

PennEnvironment, Inc., and Clean Air Council v. United States Steel Corporation (USDC WD Penn), deposition 2/10/21.

Ohio Valley Environmental Coalition and The Sierra Club v. Eagle Natrium LLC (USDC ND West Virginia), deposition 8/19/20.

Gary and Anne Childress, et al. v. JP Morgan Chase & Co., et al. (USDC ED North Carolina), deposition 1/24/19 and affidavit 3/17/20.

Seneca Economics and Environment, LLC v. Manson Bolves Donaldson Varn, P.A. (Florida Circuit Court), affidavit 2/26/20.

Permit application for Plaquemines Liquids Terminal, LLC (Louisiana DEQ), affidavit 1/27/20.

Newark Education Workers Caucus and Natural Resources Defense Council, Inc. v. City of Newark et al. (USDC NJ), courtroom testimony 8/15/19.

Wild Fish Conservancy v. Cooke Aquaculture Pacific, LLC (USDC WD Wash), deposition 8/02/19.

Waste Action Project v. Port of Olympia (USDC WD Wash), deposition 7/17/19.

JONATHAN S. SHEFFTZ

Testimony History (continued)

Toxics Action Center, Inc. and Conservation Law Foundation v. Casella Waste Systems, Inc. and North Country Environmental Services, Inc. (USDC NH), deposition 5/15/19.

Suncoast Waterkeeper, Our Children's Earth Foundation, and Ecological Rights Foundation v. City of Gulfport (USDC MD Fla), deposition 5/7/19.

San Antonio Bay Estuarine Waterkeeper and S. Diane Wilson v. Formosa Plastics Corp., Texas, et al. (USDC SD Tex), deposition 1/16/19.

Infinity Fluids Corporation v. Eemax, testimony at binding arbitration hearing, 12/6/18.

Puget Soundkeeper Alliance v. Seattle Iron & Metals, Corp. (USDC WD Wash), deposition 10/4/18.

Natural Resources Defense Council, Respiratory Health Association, and Sierra Club, Inc. v. Illinois Power Resources, LLC and Illinois Power Resources Generating, LLC (USDC CD Illinois), deposition 6/12/18.

Louisiana Environmental Action Network and Stephanie Anthony v. Exxon Mobil Corp. d/b/a/ ExxonMobil Chemical Co. (USDC MD Louisiana), deposition 10/26/17.

Jeffrey Palmer v. Inn Serve Corporation d/b/a Hampton Inn & Suites, Inn of Daphne, Inc. d/b/a Hampton Inn et al. (Court of Lauderdale County, Mississippi), affidavits 6/2/17 & 10/23/17.

In the Matter of Taotao USA, Inc., Taotao Group Co., Ltd., and Jinyun County Xiangyuan Industry Co., Ltd. (U.S. EPA Administrative Court), deposition 9/26/17, courtroom testimony 10/19/17.

Puget Soundkeeper Alliance v. Louis Dreyfus Commodities LLC et al. (USDC WD Wash), deposition 3/2/16.

Gulf Restoration Network, Louisiana Environmental Action Network, and Sierra Club v. United Bulk Terminals Davant, L.L.C. (USDC ED Louisiana), deposition 5/5/15.

Village of Stillwater, Town of Stillwater, Town of Waterford, Water Commissioners of the Town of Waterford, Village of Waterford, Town of Halfmoon, and County of Saratoga v. General Electric Company et al.; and Saratoga County Water Authority v. General Electric Company (USDC ND New York), deposition 4/2/14.

Environment Texas Citizen Lobby, Inc. and Sierra Club v. ExxonMobil Corporation, et al. (USDC SD Tex), deposition 6/1/12, courtroom testimony 2/14/14.

Waste Action Project v. Draper Valley Holdings LLC dba Draper Valley Farms (USDC WD Wash), deposition 1/21/14.

JONATHAN S. SHEFFTZ

Testimony History (continued)

RE Sources for Sustainable Communities v. Pacific International Terminals, Inc. (USDC WD Wash), deposition 4/11/13.

WildEarth Guardians v. Lamar Utilities Board doing business as Lamar Light and Power, and Arkansas Power Authority (USDC Colo), deposition 3/22/13.

Tina A. Rhodes, Individually and as Administratrix of David C. Rhodes, et al. v. Tyrone Gadsen and GP&T Transport, Inc. (Mass. Superior Court), deposition 12/11/12, courtroom testimony 1/23/13.

Waste Action Project v. Sierra Pacific Industries dba Sierra Junction City Sawmills (USDC WD Wash), deposition 12/28/12.

People of the State of California and The City of San Diego v. Kinder Morgan Energy Partners, L.P., et al. (USDC SD Cal), deposition 4/26/12.

Marvin Evans v. Certain Underwriters at Lloyd's London, KMS Associates, Inc., Greenwich Insurance Company, W. Brown & Associates, Inc. and Hub International Gulf South Limited f/k/a/ Hibernia Rosenthal Insurance Agency, LLC d/b/a Hibernia Rosenthal (Florida Circuit Court), depositions 9/15/11 and 11/15/10.

Bouncing Cranberries LLC v. CommonPlaces eSolutions, LLC, testimony at binding arbitration hearing 8/18/11.

Puget Soundkeeper Alliance v. BNSF Railway Company (USDC WD Wash), deposition 7/7/11.

State of Texas v. BP Products North America Inc. (Texas District Court), deposition 6/7/11.

Chevron Corporation v. Jonathan S. Shefftz (USDC Mass) and *Maria Aguinda et al. v. Chevron Corporation* (Court of Justice of Nueva Loja, Ecuador), deposition 12/16/10.

Elizabeth Russell and Katherine Gates v. Joseph Reilly and James Georges, Executors of the Estate of K. Mildred Dooling, a/k/a Mildred K. Dooling, and Patrick Curtin, Individually and as Trustee of the M.D. Realty Trust (Mass. Superior Court), courtroom testimony 7/21/10.

Hildagarde Bartling, et al. v. Country Villa Bay Vista Healthcare Center, et al. (California State Court), deposition 1/29/10.

Joseph J. Zajac III v. Pamela J. Trueblood, et al. (USDC MD Fla), affidavit 9/16/09.

In the matter of 99 Cents Only Stores (U.S. EPA Administrative Court), courtroom testimony 6/24/09.

U.S. v. Government of Guam (USDC Guam), courtroom testimony 12/9/08 and 4/13/09.

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U.S. v. James and Nancy Oliver d/b/a Safety Waste Incineration (USDC Alaska), courtroom testimony 3/25/09 and 3/27/09.

In the matter of Valimet, Inc. (U.S. EPA Administrative Court), courtroom testimony 12/10/08.

Rectrix Aerodome Centers, Inc. v. Barnstable Municipal Airport Commission, et al. (USDC Mass), deposition 12/2/08.

State of Ohio v. The Shelly Holding Company et al. (Franklin County Municipal Court), depositions 7/30/08 and 9/19/08, courtroom testimony 10/16/08 and 10/17/08.

In the matter of Lowell Vos Feedlot (U.S. EPA Administrative Court), courtroom testimony 9/17/08.

French Heritage, Inc. v. Ethan Allen, Inc. (Connecticut State Court), deposition 6/28/06 and 6/29/06.

Oregon Public Interest Research Group, Diane Heintz, and Rena Taylor v. Pacific Coast Seafoods Company, Pacific Surimi Joint Venture, LLC, Pacific Surimi Co., Inc., and Dulcich Inc. d/b/a Pacific Seafood Group (USDC Oregon), deposition 4/18/06.

In the matter of Rizing Sun LLC (U.S. EPA Administrative Court), courtroom testimony 2/7/06.

State of Ohio v. Container Recyclers, Inc. (Franklin County Municipal Court), deposition 4/1/05.

In the matter of Vico Construction Corporation and Smith Farm Enterprises (U.S. EPA Administrative Court), courtroom testimony 6/20/02 and 10/8/03.

U.S. v. The New Portland Meadows, Inc. (USDC Oregon), courtroom testimony 5/20/03.

In the matter of Vico Construction Corporation and Amelia Venture Properties (U.S. EPA Administrative Court), courtroom testimony 1/14/03.

United States Public Interest Research Group, Stephen E. Crawford, and Charles Fitzgerald v. Heritage Salmon, Inc.; U.S. PIRG et al. v. Stolt Sea Farm, Inc.; U.S. PIRG et al. v. Atlantic Salmon of Maine LLC (USDC Maine), deposition 6/5/01, courtroom testimony 10/15/02.

U.S. v. Murphy Oil USA, Inc. (USDC WD Wis), deposition 4/24/01.

U.S. v. Royal Oak Enterprises, Inc. (USDC ED Va), depositions 3/22/00 and 5/19/00.

In the matter of Titan Wheel Corp. of Iowa (U.S. EPA Administrative Court), affidavit 11/24/99.

U.S. v. Gulf States Steel, Inc. (USDC ND Ala), affidavit 12/30/98, deposition 10/22/99.

U.S. v. Koch Industries, Inc. (USDC ND Okla and SD Tex), depositions 5/24/99 and 6/1/99.

State of Wisconsin v. I-K-I Manufacturing Company, Inc., deposition 4/13/99.

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Testimony History (continued)

U.S. v. Borden Chemicals & Plastics (USDC MD La), deposition 2/5/98.

State of New Hampshire v. Johnson Products, Incorporated, deposition 2/3/98.

In the matter of EK Associates, L.P., d/b/a EKCO/GLACO, and EK Management Corporation (U.S. EPA Administrative Court), courtroom testimony 8/14/97.

U.S. v. Smithfield Foods, Inc., et al. (USDC ED Va), deposition 7/9/97.

U.S. v. Nucor Corporation (USDC ND Ala), deposition 6/12/97.

U.S. v. U.S. Metallics, Inc., and Town of Onalaska, Wis. (USDC WD Wis), affidavit 10/21/96.